the shots, however, having penetrated the skin, which fact can be accounted for by the Platypus swimming in such a manner as to leave only a part of the head visible. One shot went through the jaws, another in the left eye, destroying it totally, and the skull was fractured to such a degree that several particles of the cranium penetrated the brain, and were found there together with masses of coagulated blood. The wound in the head was nearly an inch long and half an inch broad. Besides this, one of the hind feet was so much swollen and inflamed that its colour was blood red, and the skin had been cut here in order to form an issue, which, however, had not taken place.

Taking all these circumstances into consideration, it appears that the Platypus possesses a tenacity of life not very likely to be found in animals of the higher order. The Ornithorhynchus, indeed, deserves also, in this respect, to be called "paradoxus."

Art. XVII.—*Native Zinc embedded in Basalt.* By Ludwig Becker.

On the 26th of October, 1855, a piece of metal was shown me here in Melbourne, by Mr. W. Clarke, the well-known gold broker, who also mentioned that it had been found in a block of basalt, not far from Melbourne. I immediately hastened to the spot in order to learn something more particular about the interesting find. The locality is a basalt quarry near Brunswick, at the back of the Collingwood Stockade. The finder of the metal gave me the following particulars, which were corroborated by a dozen workmen, who were present at the find. The man spoke as follows: "Look here, Sir, the 'Bluestone' begins about four "feet below the surface, and I bored a hole in a solid piece, "5 feet by 4, in order to blast it. As soon as this was done, "I commenced breaking the large pieces of stone with a "heavy hammer, and out of one of the pieces, a white mass "fell on the ground, which I, out of curiosity, picked up. I "found it rather heavy, and wishing to know what it was, I "broke the mass, which presented then a blueish white and "brilliant shining metallic surface. Thinking it to be silver, "I requested one of my neighbours to show it to Mr. "Clarke, and the piece you hold in your hands is the identi-

" cal piece I sent him. It splintered into several pieces " upon my breaking it, some of which are on my mantel- " piece, some in the hands of neighbours. The piece, when " unbroken, was flat, and about the size of a child's hand. " It lay in a cavity of the bluestone block, and the sides of " the cavity were covered with a similar substance, and of " the same dirty white colour, as the coating or covering of " the metal. I can swear to what I have here stated." The man here finished his relation. It was impossible for me to find the identical fragment of the bluestone block containing the cavity, still the specimen of rock before you is a piece of the same block in which the metal was found. I visited the quarry often during the space of fourteen months, and made strict search and enquiry in order to ascertain whether deceit or imposition had any hand in the matter; I returned home each time in the belief that the workman's depositions were true. Besides, I offered the quarrymen a sum of money should they procure me a further supply of specimens, which however, I have not yet been so fortunate as to obtain; if the metal before you were an artificial fabricate, surely the men, should they be deceivers, would have produced more specimens in the hope of obtaining the promised reward.

I have to thank Mr. George Ulrich (a gentleman employed by the Mining Commission, and whose ability, as also care and exactness in analysing inorganic bodies is well known) for the following results of experiments with a blowpipe on the metal.

" The metal, when heated in the oxydising flame, colours the flame whitish green. It phosphoresces very brilliantly, while being transmuted into a white not fusible oxide. When heated on charcoal in both flames, it gives the coal a coating of a yellow colour, which, when cooled, appears white. When moistened with cobalt solution and then heated, the coating of the coal assumed a beautiful green colour, and phosphoresces strongly during the operation. The metal imparts no colour to the borax pearl or the phosphoric salt pearl, they became however milky on a larger supply, especially when moved in and out of the flame. In the reducing flame they became milky white of themselves. The following results appeared from experiments made on the whitish-yellow crust or coating, which was formed on the metal. The crust, when heated in the flame, phosphoresced strongly without melting; when heated on coal it shows the same reaction as the metal itself; the coating and the green

colour produced by the cobalt solution are especially manifest. The borax pearl takes a yellow colour in both fires (oxide of iron) accompanied by an effervescence (carbonic acid); after this, it takes a greenish, and, upon cooling, a light blue colour of such a tint as clearly to indicate the presence of cobalt. The same appearance is visible in the phosphoric salt pearl; in the reducing flame it was a mere greenish blue. When I examined the crust closely with a magnifying glass, I discovered in the cavities and fissures of the coating, small hair-like films or tufts of a peach-blossom colour, and when brought into contact with the borax-pearl, this pearl was coloured with a deeper blue. This pink coloured matter was not found in sufficient quantity to allow further experiments. To judge from appearance it is Cobalt-Bloom. When the crust is brought into contact with acids, it dissolves easily with effervescence, and, with caustic alkali, it precipitates in a white downy substance, and dissolves again when the caustic alkali is used in excess. According to these reactions in the wet as well as in the dry manner, it allows us to come to the conclusion that the coating is Zincspar (Calamine); although it is possible that this crust be oxide of zinc with carbonate of lime; for the white sugar-like substance, which is found so often in the cavities of the so-called bluestone, is also carbonate of lime (Arragonit). As a proof of the purity of the metal itself, this circumstance is in its favour, viz.: That it shows no precipitate when dissolved in nitric acid and brought into contact with sulphohydric acid; and, on the contrary, that it shows a pure white precipitate when brought into contact with hydrosulphuret of ammonia. Those metals which render zinc impure, such as cobalt, cadmium, lead, &c., are not found in this piece, or, when present, in only extremely small quantities."

The specimens before you were in one piece, which, when complete, weighed circa four ounces and a half. The specific gravity is about 7.*

I believe this to be the first time that zinc was found in a native state, and the circumstance of its being found here, in Victoria, will be a sufficient excuse for my having so long tried your patience.

---

* Fracture: in one direction laminated, in the other partly perpendicularly striped, partly, like the Turmalin, of a prismatic construction.—L.B.